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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,146	09/25/2006	David Alan Pears	HGX-012.01	7751
25181	7590	04/28/2011		
FOLEY HOAG, LLP PATENT GROUP, WORLD TRADE CENTER WEST 155 SEAPORT BLVD BOSTON, MA 02110			EXAMINER QIAN, YUN	
			ART UNIT 1732	PAPER NUMBER
			NOTIFICATION DATE 04/28/2011	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/568,146

Applicant(s)

PEARS ET AL.

Examiner

YUN QIAN

Art Unit

1732

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,9-37 is/are pending in the application.
- 4a) Of the above claim(s) 13-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,9-12 and 35-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

Claims 1, 4-6, and 9-37 remain for examination. Claim 1 is amended. Claims 2-3 and 7-8 have been canceled. Claims 13-34 have been withdrawn as being drawn to non-elected inventions.

Claims 1, 4-6, 9-12 and 35-37 are currently under examination.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 14, 2010 has been entered.

Previous Grounds of Rejection

In the light of the amendment, the rejection under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement with respect to claim 1 is withdrawn.

The rejection under 35 U.S.C. 102 (e) as being anticipated by Ley et al. (WO 03/006151) with respect to claims 1, 4-6, 9-12 and 35-37 is amended as follows.

A new ground of rejection is made as follows with respect to the amended claim 1, 4-6, 9-12 and 35-37.

New Ground(s) Rejection

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 4-6, 9-12 and 35-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In this case, according to the instant Specification (PGPUB, [0044]), the molar ratio is in the range from 1/100 to 100/1. The term "at least 1:1" of the amended claim 1 can be interpreted greater than 100/1 or 1/100. The instant specification does not provide support to broadly recite ratio of "at least 1:1"

As such, the dependent claims 4-6, 9-12 and 35-37 are rejected as well.

Appropriated corrections are required.

Amended Ground(s) Rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4-6, 9-12 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Ley et al. (WO 03/006151) in view of Kobayashi et al. (EP 1386663).

Regarding claim 1, Ley et al. teaches a microencapsulated catalyst-ligand system comprising a catalyst and ligands microencapsulated within a permeable polymer microcapsule shell (claims 1-3).

Such microencapsulated catalyst system taught by Ley et al. comprises a Pd catalyst and phosphine ligands microencapsulated within a permeable polymer microcapsule shell wherein the microcapsule shell is formed by interfacial polymerization (pages 7-10, claims 1-3).

However, Ley et al. does not specifically teach a ratio of metal to ligand at least 1:1 as per applicant claim 1.

Kobayashi et al. teaches microencapsulated metal catalyst comprising a metal catalyst MC Pd(PPh₃), wherein Pd: ligand PPh₃ = 1:1 (page 5, [0024]-[0025]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the Pd/phosphine complex catalyst with MC Pd(PPh₃) of Kobayashi et al. to obtain the invention as specified in the claim 1, motivated by the fact that the resulting microencapsulated Group VIII catalyst is stable in air, easy to recover, and reusable (abstract).

Since both of them disclose microencapsulated Pd/phosphine complex, one would have a reasonable expectation of success.

Product-by-process limitation in this claim is noted. It is considered while the product of the reference is made by a different process, the product made and disclosed is the same as being claimed. see "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the

prior art, the claim is unpatentable even though the prior product was made by a different process." (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (In re Marosi, 710 F.2d 798, 802,218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113)

Regarding claim 4, the permeable polymer microcapsule shell taught by Ley et al. is the product of self-condensation and/or cross-linking of etherified urea-formaldehyde resins or prepolymers in which from about 50 to about 98% of the methylol groups have been etherified with a C₄-C₁₀ alcohol (claim 3).

Regarding claim 5, the permeable polymer microcapsule shell is a polyurea microcapsule prepared.

Product-by-process limitation in this claim is noted. It is considered while the product of the reference is made by a different process, the product made and disclosed is the same as being claimed. see "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to

that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (In re Marosi, 710 F.2d 798, 802,218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113)

Regarding claim 6, Ley et al. teaches 1-chloro-2,4-phenylene diisocyanate, m-phenylene diisocyanate, and PMPPi as the recited claim (claim 5).

Regarding claims 9-12, the catalyst taught by Ley et al. comprises MC Pd(PPh₃) as the recited claims ([0024]-[0025]). The molar ratio of Pd metal to PPh₃ ligand is 1:1.

Regarding claims 35-36, Ley et al. teaches to dissolve palladium acetate in a suitable solvent such as a hydrocarbon solvent or a chlorinated hydrocarbon solvent (page 9).

Regarding claim 37, the microencapsulated catalyst system taught by Ley et al. includes the catalyst of Pd(OAc)₂ (claim 25), PPh₃ ligand (Wilkinson's catalyst, page 10), and the shell made from PMPPi and/or tolylene diisocyanate (page 5).

Response to Arguments

With regards to the previous Grounds of Rejection

Applicant's arguments and Declaration under 37 C.F.R. 1.132 filed on December 14, 2011 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUN QIAN whose telephone number is (571)270-5834. The examiner can normally be reached on Monday-Thursday, 10:00am -4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YUN QIAN/
Examiner, Art Unit 1732

April 23, 2011

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1732